of eucortone given intravenously are suggested. When improvement in the patient's condition occurs, repeated injections, perhaps six-hourly or even four-hourly, may be required at first. The duration of the benefit obtained, however, will be the best guide to the frequency of injection.

Summary

Four cases of bilateral suprarenal haemorrhage in association with pregnancy are described.

The pathology, clinical features, and diagnosis of the condition are described and suggestions made for treatment.

Stress is laid on pre-eclamptic toxæmia as an aetiological factor during pregnancy.

The variability of the clinical picture is emphasized. The condition often simulates an acute abdominal catastrophe, and in pregnancy the appearances may suggest an accidental haemorrhage or uterine rupture or inversion.

The diagnosis should be remembered in the rare instances when the expected lesion is not found on examination or at laparotomy, or when the patient is not responding to appropriate conservative treatment.

I should like to express my thanks to Dr. Robert Newton for permission to record these cases and to Dr. E. A. Gerrard for much help in the preparation of this paper.

REFERENCES

- Arnaud, F. (1900). *Arch. gén. Méd.*, **4**, 5.
 Arnold, G., Richer, A. G., and Lepore, J. J. (1949). *New Engl. J. Med.*, **240**, 1040.
 Barsoum, H. (1936). *British Medical Journal*, **2**, 972.
 Burnett, C. W. F. (1948). *Lancet*, **1**, 249.
 Corcoran, W. J., and Strauss, A. A. (1924). *J. Amer. med. Ass.*, **82**, 626.
 Dodds, G. H. (1945). *British Medical Journal*, **1**, 769.
 Edelman, L. (1945-6). *J. Mt Sinai Hosp.*, **12**, 137.
 Goldzieher, M. A., and Greenwald, H. M. (1928). *Amer. J. Dis. Child.*, **36**, 324.
 Hall, E. M., and Hemken, L. (1936). *Arch. intern. Med.*, **58**, 448.
 Hurter, L. E. (1945-6). *Proc. roy. Soc. Med.*, **39**, 581.
 Keele, D. V., and Keele, K. D. (1942). *British Medical Journal*, **2**, 687.
 Lavenson, R. S. (1908). *Arch. intern. Med.*, **2**, 62.
 Macmillan, R. L. (1947). *Lancet*, **1**, 177.
 Oddo, V. J. (1946). *J. Urol.*, **55**, 1.
 Williams, C. J., and Ellis, R. (1944). *British Medical Journal*, **2**, 596.

The tuberculosis research team of the South Pacific Commission set out for Samoa and Tahiti in April to begin the second stage of a research project which may be the means of saving whole groups of people from extinction. In some areas of the region a high percentage of the population is suffering from tuberculosis. This project is one of many health, economic, and social plans of the Commission (which was established in 1947) for promoting the welfare and advancement of the non-selfgoverning peoples in 15 territories lying south of the Equator. It is an advisory and consultative body which is conducting research into the urgent problems of the region, with a view to making recommendations to the six member Governments—New Zealand, France, Holland, the United Kingdom, and America. After investigating the incidence of tuberculosis the next stage involves prevention and cure; patients must be treated, non-reactors immunized with B.C.G., and adverse factors in food, clothing, housing, and so on that help spread the disease eliminated. In the eastern territories filariasis is a great menace, and in the west malaria; the Commission is trying to find means of dealing with these diseases. A programme of education in removal of possible breeding-grounds of mosquitoes forms part of its plans. In infected areas up to 60% of the population is filarial. The emphasis of control is on preventive measures, and the people are co-operating fully; they are learning to come for blood tests and injections and, when infected, for early treatment. Leprosy, nutritional problems, ophthalmic and venereal diseases are also being investigated in the region.

COMBINED REDUCTIONS OF THE LOWER JAW AND NOSE

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The chief feature of the face is the nose, and the other bony point with which it is in closest relation is the chin. The three cases described below illustrate the profound change in appearance which an alteration in the size-space relationship of these two bony points can produce. In these cases the nose and the jaw have been reduced for the relief of facial ugliness or grotesqueness of congenital origin and of such severity that the appearance has been known to exert a marked and deleterious effect on the life of the patient.

The operations are the reduction of the prognathic jaw by Kostecka's method, and nasal reduction by the standard methods of correction for hooked, bulky, or broken noses. Unlike some facial reconstructions the tissue dissection at these operations is small and the hospital stay a matter of a few days.

Kostecka's Operation

Most prognathic jaws, even those in which the mandibular protrusion in the incisor region exceeds an inch and in which not a single mandibular tooth is in articulation with teeth of the upper jaw, can be brought back into workable occlusion, with the upper incisors in front of the lower incisors, by a bilateral osteotomy of the ascending rami and can be maintained in that position.

Kostecka has devised a neat and simple method of doing this section safely and accurately. The operation is a combined surgical and orthodontic procedure. The lines of bony section above the mandibular foramen and the post-operative occlusion are planned with x-ray pictures and dental models pre-operatively. Before operation cast metal splints are cemented on the teeth, fitted both with hooks for wires (and later elastics) and with screw plates for locking bars. These splints provide the necessary rigid post-operative fixation of the mandible in its new position. A certain amount of grinding of the occlusal surfaces of the cheek teeth to establish a satisfactory functional occlusion is often needed. This can sometimes be done in part before operation from a close study of the models. A final spot-grinding follows operation. Kostecka for this reason uses open cap splints to allow grinding during the period of immobilization.

At operation, stab wounds which heal with virtually invisible scars are used to divide the ascending rami along the predetermined lines by Gigli saws. These saws are placed in position deep to each ascending ramus by the Kostecka seeker. This instrument is shaped like an aneurysm needle and has a finely tempered sharp point in which there is a slot to take the end of a Gigli saw. The seeker is introduced through a stab incision half-way between the tragus and the angle of the jaw and passed down first to the posterior border of the ascending ramus and then, along its deep surface, in the

direction of the inner canthus of the eye. The rigid instrument and its sharpness allow millimetre control of the point.

When the anterior border of the ramus is reached the handle of the seeker is depressed to make the point penetrate the cheek just below the inferior border of the body of the malar. The Gigli saw is threaded through the slot in its point and the seeker withdrawn, carrying the Gigli saw with it. The saw is gripped close to the skin in either hand with gauze protection and the bone is divided along this line. The assistant's hand steadies the symphysis, and in order to protect the seventh nerve and parotid duct care is taken to stop sawing directly the bone is divided. The same procedure is repeated on the opposite side. It is then usually a simple matter to displace the jaw backwards into the predetermined occlusion and profile. Occasionally side-to-side manipulation may be necessary to do this. The jaws are fixed together by wires and by locking bars to the splints. This rigid intermaxillary fixation is best maintained for 10 to 12 weeks, and is then followed by 4 to 6 weeks' limited mobility with elastics before the splints are removed. If the rigid fixation is released in less than 10 to 12 weeks a high proportion of these cases develop an open bite. We have not seen this complication when firm fixation has been maintained for 10 to 12 weeks. From the third or fourth post-operative day the patient is ambulatory. Within a few days he can generally ingest, through gaps in the teeth, normal diet finely cut.

The posterior displacement of the mandible, which carries with it a tongue often larger than normal, constitutes a potential threat to the airway; but respiratory obstruction has so far not been seen in cases in which only the ascending ramus has been divided. It is possible that a preliminary resection of the lateral borders or of a central wedge of the tongue would be advisable in cases of gross tongue enlargement, from the point of view both of the airway and of preventing the post-operative occurrence of open bite due to pressure of the large tongue on the lower incisors.

We prefer the Kostecka technique as simpler and safer than the other "blind" methods of osteotomy by chisel or hand-saw introduced through small incisions. Open methods of jaw reduction, by section of the ascending rami or by resection of horizontal rami with internal fixation of fragments, do not give better end-results or have fewer complications to offset the added complexity of operation and the larger external scars.

When the mandibular symphysis is very much increased in vertical depth the "push back" operation of Kostecka can with advantage be combined with excision of 2 cm. of the lower border of the symphysis (through an intrabuccal approach). This further reduces the disproportionate vertical length of the lower face.

Nasal Reduction

Nasal reduction, whether for congenital deformity or old fracture, comprises a series of steps, all or part of which may be necessary for individual cases. These bony, cartilaginous, and mucosal resections are done through intravestibular incisions. In reducing the tip, columella, and ala, we now follow the technique demonstrated to one of us (P.C.) by Dr. Joseph Tamarin, of New York, of which this is an abbreviated account.

The bilateral paramarginal incisions are planned to lie between what is judged to be a normal width of the alar cartilage and columella, and alar, triangular, and septal

cartilages which lie above and in excess of this empirical assessment. Through these incisions on each side the skin is mobilized off the cartilage and bony framework lying above; the angle of incidence of the nose with face is lowered by saw resection of hump or excess height of nasal bridge line from glabella region to distal end of septum; excess alar cartilage and lining are excised; and the septum is shortened. Bilateral sections with saws through the fronto-nasal processes of the maxilla followed by digital compression narrows the breadth of the new nose. In certain cases of septal deflection with depression of the cartilaginous bridge line a perfectly straight nose can be obtained only by the insertion along it of an implant—generally homogeneous or preserved ox cartilage. Excisions of full-thickness ellipses from their bases are used to reduce the size of bulky alae and in those cases in which lowering of a high nasal tip has "splayed" the nostrils. The mucosal incisions are closed accurately with fine catgut. The nose is maintained in the reduced position in the midline by a plaster-of-Paris splint supported from the forehead by strapping. It is worn for one week. The patient is ambulatory after three to four days.

To do both jaw and nasal reductions at one operation is perfectly practicable. It was done in Cases 1 and 3. But the combined operation does invite anxieties for the airway in the immediate post-operative period. Thus the tongue (often an enlarged one) goes back towards the posterior pharyngeal wall, and the nasal airway is temporarily occluded by bony narrowing and oedema of mucosa. In Case 3 the intermaxillary fixation after ascending ramus section had to be delayed for 48 hours on this account. The reduction was then very difficult. When the jaw and nasal reductions are combined at the same operation constant supervision for one to two days is necessary. The patients are nursed on their sides; the nasopharyngeal tubes are maintained as long as possible; elastic rather than wire fixation between jaws is used; and torch and scissors are kept readily available.

Case Reports

Case 1.—The patient was a man of over 40. Reduction of prognathism and a bulbous drooping nasal tip was undertaken because of his profound conviction that his appearance had critically and repeatedly handicapped his promotion in professional life. The combined operation for nasal and jaw reduction was undertaken. The nasal reduction was limited to remodelling of the tip and shortening of the septum (Fig. 1).

Case 2.—A woman of over 30 had prognathism with congenital loss of nasal septum giving a bulbous nasal tip. Treatment was again undertaken on psychological grounds, in this case because of her conviction that her appearance was due to her parents' neglect of an injury in infancy, and that all her disappointments in life, including her single state, were due to it. The nasal reduction, with a cartilage implant to the bridge, and the jaw reduction by Kostecka's method were done in two operations.

Case 3.—A woman of over 40 showed to a marked degree the deformities associated with severe cleft-lip and cleft-palate with inadequate early treatment. She had a hooked nose with depressed and deviated tip and splayed nostril; also a tight narrow upper lip, badly notched with an ugly scar and obvious suture marks. A protuberant lower lip and chin completed the picture. She rightly believed that her appearance had been an insurmountable handicap to such opportunities, social and economic, as would otherwise have been open to her. A combined Kostecka's operation, nasal reduction, and rearrangement of the lip was done in one operation (see Figs. 2 and 3).

A fourth case may be mentioned in which bilateral mandibular osteotomy and nasal reduction were combined in one operation and in which the post-operative course was uneventful. The operation was for a receding jaw (not therefore a "reduction"), and the case is not included here.

FIG. 1.—Case 1. Combined reduction of prognathic jaw and of nose. The post-operative picture (on the fourth day) shows the radical change in contour produced by the combined operation. The nasal reduction was done by Sir Harold Gillies and was limited to elevation and remodelling of the nose tip.

FIG. 2.—Case 3. Old cleft-lip and palate treatment by Kostecka's operation, nasal reduction, and revision of lip. Patient shows the typical disfigurement of relative mandibular prognathism, hooked drooping nose, and tight, notched, scarred upper lip. The two bony operations produced a radical change in profile. Pre- and post-operative profile views.

FIG. 3.—Case 3. The pre-operative and post-operative views following nasal reduction and Kostecka's operation. Two years after operation the marked and beneficial psychological effects of this correction done in middle life have persisted.

Discussion

Cases in need of combined jaw and nose reduction are not common, but Case 3 is a typical example of one group for which the operations could more often be considered. These are the old cases of cleft-lip, particularly the double clefts. In these unfortunate people the excess pouting lower lip which protrudes well beyond the short tight upper lip, and the hooked nose with its depressed tip and flattened nostrils, can combine to give an ugliness of appearance quite crippling to the emotional and economic life of the patient. We are indebted to Mr. Rainsford Mowlem for the suggestion that an acceptable treatment for these cases seen in adult life would be to deal with them as cases of prognathism by section of the ascending ramus. This not only puts the lower lip back level with the upper, but it can bring the lower teeth back and up into a more normal occlusion, with correction of any open bite present.

Kostecka's operation can produce a remarkable change and improvement in the appearance of these people. It is chiefly in these adult cases of old bad cleft-lips, with both nasal and lip deformities, that the personality effects following a successful bony reduction are most marked. Whatever the cause of severe congenital disfigurement—diffuse haemangiomata, congenital absence or deformity of feature—if this is substantially relieved in middle age a remarkable series of "release phenomena" almost always occur in the personality. These manifestations can be for a time almost too exuberant, but the change in the balance is generally excellent, with the more optimistic, agreeable, and companionable aspects of the personality appearing or predominating for the first time.

Summary

The marked changes produced in appearance by altering the size/space relationship of the nose and chin are illustrated.

Kostecka's operation for prognathism and the operation of nasal reduction are described.

Accounts of three cases treated by combined nasal and jaw reduction are given. Note is also made of a fourth patient having the double operation without post-operative complication.

Particular attention is drawn to the marked improvement both in appearance and in the occlusion which can be obtained for old severe cleft-lip cases by this procedure, and to the beneficial personality changes which follow relief in middle age of the marked bony and soft tissue deformities of cleft-lip and cleft-palate.

The nasal reduction in Case 1 was done by Sir Harold Gillies, and our thanks are due to him for this demonstration of the practicability of combining the two procedures in one operation.

The establishment of area nurse-training committees is provided for by recent regulations (Nurses (Area Nurse-Training Committees) Order, 1951). There will be one committee in each of the regional hospital board areas and their functions are as follows: (a) to have constant regard to methods of training nurses in their areas; (b) to promote research and investigation into matters relating to the training of nurses with a view to improving the methods employed, and to report to the General Nursing Council for England and Wales on the results of such research and investigation; (c) to advise and assist authorities engaged in the training of nurses on the preparation and carrying out of schemes of training; and (d) to advise the General Nursing Council and assist that Council, if asked to do so, in matters relating to the approval of institutions for the training of nurses.